SHARP® SERVICE MANUAL

S03271R343M//

MICROWAVE OVEN
MODEL
R-343(W)M
R-343(G)M
R-343(SL)M

In interests of user-safety the oven should be restored to its original condition and only parts identical to those specified should be used.

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SHARP CORPORATION

SERVICING

WARNING TO SERVICE PERSONNEL

Microwave ovens contain circuitry capable of producing very high voltage and current. Contact with following parts will result in electrocution:-

High voltage capacitor, High voltage transformer, Magnetron, High voltage rectifier assembly, High voltage harness.

REMEMBER TO CHECK 3D

1) **D**isconnect the supply.
2) **D**oor opened, and wedged open.
3) **D**ischarge high voltage capacitor.

WARNING AGAINST THE CHARGE OF THE HIGH-VOLTAGE CAPACITOR

The high-voltage capacitor remains charged about 60 seconds after the oven has been switched off. Wait for 60 seconds and then short-circuit the connection of the high-voltage capacitor (that is, of the connecting lead of the high-voltage rectifier) against the chassis using a screwdriver with an insulated handle.

Sharp recommend that wherever possible, fault-finding is carried out with the supply disconnected. In some cases, it may be necessary to connect the supply with the cover removed to carry out fault investigation in the control circuitry. In such cases, the high voltage circuit should be disabled as described below to reduce the hazards:-

- Carry out 3D checks (see above).
- Disconnect the supply leads from the high voltage transformer, making a note of the polarity. Insulate the connectors, ensuring they are positioned away from the transformer and fastened there.
- Connect any relevant test equipment e.g. voltmeter.
- Reconnect the oven to the supply, then close the door.
- Note the results of the test, taking care to keep clear of the operational oven.
- Carry out 3D checks (see above).
- Reconnect the leads to the transformer. Take care to observe correct polarity.
- Carry out 4R checks (see below).

Microwave ovens should not be used without a load. To test for the presence of microwave energy within a cavity, place a cup of cold water on the oven turntable, close the door and set the microwave timer for one (1) minute, set the power level to HIGH (100%) and push the start key. When the one (1) minute has elapsed (timer at zero) carefully check that the water is now hot.

AFTER REPAIR REMEMBER TO CHECK 4R

1) **R**econnect all leads removed from components during testing.
2) **R**eplace the outer case (cabinet).
3) **R**econnect the supply.
4) **R**un the oven. Check all functions.

When all service work is completed, and the oven is fully assembled, the microwave power output should be checked and microwave leakage test carried out.

IMPORTANT: If the oven becomes inoperative because of a blown fuse F8A in the 1st latch switch - monitor switch circuit, check the 1st latch switch and monitor switch before replacing the fuse F8A.

CAUTION / WARNING

CAUTION
MICROWAVE RADIATION

Do not become exposed to radiation from the magnetron or other parts conducting microwave energy. All input and output microwave connections, waveguides, flanges and gaskets must be secured. Never operate the device without a microwave energy absorbing load attached. Never look into an open waveguide or antenna while the device is energized.

WARNING

Servicing and repair work must be carried out only by trained service engineers.

The parts marked '*' on the parts list and schematic diagram have voltages in excess of 250V.

Removal of the outer wrap gives access to potential above 250V.

All the parts marked "Δ" on the parts list may cause undue microwave exposure, by themselves, or when they are damaged, loosened or removed.

WARNING

THIS APPLIANCE MUST BE EARTHED. THE WIRES IN THIS MAINS LEAD ARE COLOURED IN ACCORDANCE WITH THE FOLLOWING CODE:
GREEN-AND-YELLOW : EARTH BLUE : NEUTRAL BROWN : LIVE

If the mains lead is replaced, only part number QACCBA032WRE3 should be used

PRODUCT DESCRIPTION

SPECIFICATION	
Power Requirements	230 -240 Volts 50 Hertz Single phase, 3 wire earthed
Power Consumption	1.45kW
Power Output	900 watts nominal of RF microwave energy Operating frequency of 2450 MHz
Case Dimensions	Width 520 mm Height 305 mm including foot Depth 413 mm
Cooking Cavity Dimensions	Width 342 mm Height 207 mm Depth 368 mm
Turntable diameter	325 mm
Control Complement	Simple Touch Control System Clock (1.00 - 12.59 or 0.00 - 23.59) Microwave Power for Variable Cooking Repetition Rate: HIGH — Full power throughout the cooking time MEDIUM HIGH — approx. 70% of FULL Power MEDIUM — approx. 50% of FULL Power MEDIUM LOW — approx. 30% of FULL Power LOW — approx. 10% of FULL Power START/AUTO MINUTE pad AUTO COOK/DEFROST pad POWER LEVEL/WEIGHT pad MORE/LESS pads STOP/CLEAR pad Time pads
Set Weight	Approx. 17 kg

As part of our policy of continuous improvement, we reserve the right to alter design and specifications without notice

OPERATION DATA

OFF CONDITION

Closing the door activates all door interlock switches (latch switch, monitored latch switch and stop switch).

IMPORTANT

When the oven door is closed, the monitor switch contacts COM - NC must be open.

When the microwave oven is pluged in a wall outlet (230 - 240V 50Hz), the line voltage is supplied to the point A3+A5 in the control unit.

1. The display flashes ”88:88”.
2. To set any programmes or set the clock, you must first touch the STOP pad.
3. “ : ” appears in the display.

MICROWAVE COOKING CONDITION

HIGH COOKING

Enter a desired cooking time by touching the Time pads and start the oven by touching the START pad.

CONNECTED COMPONENTS	RELAY
Oven lamp, Fan motor, Turntable motor	RY1
Power transformer	RY2

1. The line voltage is supplied to the primary winding of the power transformer. The voltage is converted to about 3.3 volts A.C. output on the filament winding and high voltage of approximately 2000 volts A.C. on the secondary winding.
2. The filament winding voltage (3.3 volts) heats the magnetron filament and the high voltage (2000 volts) is sent to the voltagedoubling circuit, where it is doubled to negative voltage of approximately 4000 volts D.C..
3. The 2450 MHz microwave energy produced in the magnetron generates a wave length of 12.24 cm. This energy is channeled through the waveguide (transport channel) into the oven cavity, where the food is placed to be cooked.
4. When the cooking time is up, a single tone is heard and the relays RY1 + RY2 go back to their home position. The circuits to the oven lamp, power transformer, fan motor and turntable motor are cut off.
5. When the door is opened during a cook cycle, the switches come to the following condition.

		CONDITION	
SWITCH	CONTACT	DURING COOKING	DOOR OPEN (NO COOKING)
Monitored latch switch	COM-NO	Closed	Open
Monitor switch	COM-NC	Open	Closed
Stop switch	COM-NO	Closed	Open
Monitor switch	COM-NO	Closed	Open

The circuits to the power transformer,oven lamp fan motor and turntable motor are cut off when the monitored latch switch and stop switch are made open. Shown in the display is the remaining time.

6. MONITOR SWITCH CIRCUIT
   The monitor switch (SW2) is mechanically controlled by oven door, and monitors the operation of the monitored latch switch (SW1)

6-1 When the oven door is opened during or after the cycle of cooking program, the monitored latch switch (SW1), and stop switch (SW3) must open their contacts first. After that the contacts (COM - NC) of the monitor switch (SW2) can be closed.

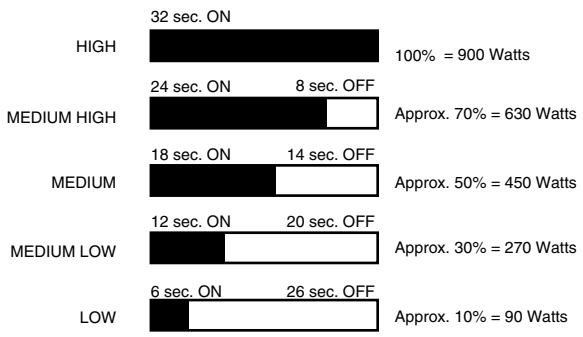
6-2 When the oven door is closed, the contacts (COM - NC) of the monitor switch (SW2) must be opened first. After that the contacts of the monitored latch switch (SW1) and stop switch (SW3) are closed.

6-3 When the oven door is opened and the contacts of the monitored latch switch (SW1) remain closed, the fuse (F1) F8A will blow, because the monitor switch is closed and a short circuit is caused.

MEDIUM HIGH, MEDIUM, MEDIUM LOW, LOW COOKING

When the microwave oven is preset for variable cooking power, the line voltage is supplied to the power transformer intermittently within a 32-second time base through the relay contact which is coupled with the current-limiting relay (RY2). The following levels of microwave power are given.

SETTING



NOTE: The ON/OFF time ratio does not exactly correspond to the percentage of microwave power, because approx. 3 seconds are needed for heating up the magnetron filament.

OUTPUT POWER TEST PROCEDURE

MICROWAVE OUTPUT POWER (IEC-60705)

The power output of this oven is rated using the method specified by IEC-60705. Full details of how to carry out this procedure can be found in the Sharp Technical Training notes which is available from Sharp Parts Centre (part number SERV-LITMW01).

The IEC-60705 procedure must be carried out using laboratory-type procedures and equipment. These requirements make the procedure unsuitable for routine performance checks.

Note: The following test method gives an indication of the output power only, it cannot be used to establish the actual/ rated output power. If the true output power is required, then the IEC-60705 test method must be used.

Alternative simplified method:
1. Place 2 litres of cold water (between 12°C and 20°C) in a suitable container.
2. Stir the water and measure the temperature in °C. Note temperature as T1.
3. Place the container in the microwave and heat the water for 2 minutes on full power.
4. When the 2 minutes is completed, remove the container and stir the water. Note the water temperature as T2.
5. Calculate the output power using the following formula:
   R.F. Power Output = (T2 - T1) x 80.

MICROWAVE LEAKAGE TEST

This oven should be tested for microwave leakage on completion of any repair or adjustment, following the procedure described in the Sharp Technical Training notes (part number SERV-LITMW01). The maximum leakage permitted in BS EN 60335-2-25 is 50W/m^2 (equivalent to 5mW/cm^2), however it is not normal to detect any significant leakage, therefore, any leakage which is detected should be investigated.

It is essential that only leakage detectors with current calibration traceable to the National Physical Laboratories are used.

Suitable leakage detectors : CELTEC A100
APOLLO X1

FUNCTION OF IMPORTANT COMPONENTS

DOOR OPEN MECHANISM

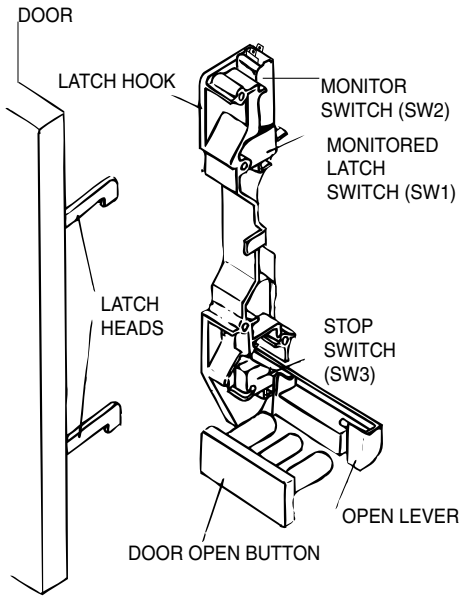


Figure D-1. Door Open Mechanism

MONITORED LATCH SWITCH SW1

STOP SWITCH SW3

1. When the oven door is closed, the contacts (COM-NO) must be closed.
2. When the oven door is opened, the contacts (COM-NO) must be opened.

MONITOR SWITCH SW2

If the oven door is opened and the contacts (COM-NO) of the monitored latch switch SW1 fail to open, the fuse F8A blows simultaneously with closing the contacts (COM-NC) of the monitor switch SW2.

CAUTION: BEFORE REPLACING A BLOWN FUSE F8A TEST THE MONITORED LATCH SWITCH SW1, MONITOR SWITCH SW2.

TEST PROCEDURES

PROCEDURE LETTER	COMPONENT TEST

A **TOUCH CONTROL PANEL ASSEMBLY TEST**

CAUTION	To prevent an electric shock. Do not touch the electrical parts and the printed wiring board. Because the control unit is " TRANSLESS CIRCUIT " and all electrical parts are used at A.C. line voltage.

The touch control panel consists of circuits including semiconductors such as LSI, ICs, etc. Therefore, unlike conventional microwave ovens, proper maintenance can not be performed with only a voltmeter and ohmmeter. In this service manual, the touch control panel assembly is in one unit and troubleshooting by unit replacement is described according to the symptoms indicated.

Control Panel.

The following symptoms indicate a defective control unit.

1. Tact Switch.
   The following symptoms indicate a defective tact switch. Replace the tact switch.
   a) When touching a tact switch, a certain tact switch produces no signal at all.
   b) When touching a tact switch, sometimes a tact switch produces no signal.
2. In connection with tact switches.
   a) When touching a tact switch, a certain group of tact switch do not produce a signal.
   b) When touching a tact switch, no tact switch produce a signal.
3. Display problems.
   a) At a certain digit, all or some segments do not light up.
   b) At a certain digit, brightness is low.
   c) Only one indicator does not light up.
   d) The corresponding segments of all digits do not light up; or they continue to light up.
   e) Wrong figure appears.
   f) A certain group of indicators do not light up.
   g) The figure of all digits flicker.
   h) When touching a tact switch, the control unit does not respond.
4. Other possible problems caused by defective control unit.
   a) Buzzer does not sound or continues to sound.

B **TACT SWITCH TEST**

1. Disconnect the oven from the power supply.
2. Discharge the high voltage capacitor.
3. Remove the control unit from the control panel.
4. By using an ohmmeter, check the tact switch operation.
5. When the tact switch is not depressed, an ohmmeter should indicate an open circuit. When the tact switch is depressed, an ohmmeter should indicate a short circuit. If improper operation is indicated, the tact switch is probably defective and should be checked.

C **RELAY TEST**

Remove the outer case and check voltage between Pin No 5 of the 3 pin connector (A) and common terminal of the relay (RY2) on the control unit with an A.C. voltmeter.
The meter should indicate rated voltage, if not check oven circuit.

RY1 and RY2 Relay Test
These relays are operated by D.C. voltage
Check voltage at the relay coil with a D.C. voltmeter during the microwave cooking operation.

DC. voltage indicated ..... Defective relay.
DC. voltage not indicated ..... Check diode which is connected to the relay coil. If diode is good, control unit is defective.

RELAY SYMBOL	OPERATIONAL VOLTAGE	CONNECTED COMPONENTS
RY1	Approx. 19.0V D.C.	Oven lamp / Turntable motor / Cooling fan motor
RY2	Approx. 7.5V D.C.	Power transformer

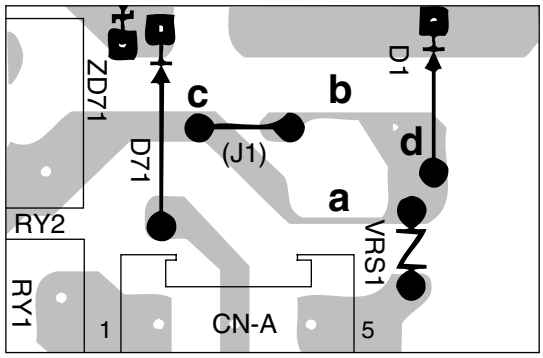
TEST PROCEDURES (CONT'D)

PROCEDURE LETTER	COMPONENT TEST
D	**PROCEDURES TO BE TAKEN WHEN THE FOIL PATTERN ON THE PRINTED WIRING BOARD (PWB) IS OPEN**

To protect the electronic circuits, this model is provided with a fine foil pattern added to the input circuit on the PWB, this foil pattern acts as a fuse. If the foil pattern is open, follow the troubleshooting guide given below for repair.
Problem: POWER ON, indicator does not light up.

STEPS	OCCURRENCE	CAUSE OR CORRECTION
1	The rated voltage is not applied between Pin No. 5 of the 3 pin connector (A) and the common terminal of the relay RY2.	Check supply voltage and oven power cord.
2	Only pattern at "a" is broken.	*Insert jumper wire J1 and solder.
3	Pattern at "a" and "b" are broken.	*Insert the coil RCILF2003YAZZ between "c" and "d".

NOTE: *At the time of making these repairs, make a visual inspection of the varistor. Check for burned damage. If any abnormal condition is detected, replace the defective parts.



TOUCH CONTROL PANEL ASSEMBLY

OUTLINE OF TOUCH CONTROL PANEL

The touch control section consists of the following circuits as shown in the touch control panel circuit.

The principal functions of these circuits and their related signals are explained below.

Tact Switch
Signals generated in the LSI are sent to the tact switches through R60, R61,R62 and R63.
When a tact switch is touched, a signal is completed through the tact switch and passed back to the LSI through R81 to perform the function that was requested.

Control Unit
Control unit consists of LSI, ACL circuit, indicator circuit, power source circuit, relay circuit, buzzer circuit, synchronizing signal circuit and back light circuit.

1) ACL
This circuit generates a signal which resets the LSI to the initial state when power is supplied.

2) Indicator Circuit
This circuit consists of 4-digits, 12-segments and 3-common electrodes using a Liquid Crystal Display.

3) Power Source Circuit
This circuit generates voltage necessary in the control unit from the AC line voltage.

Symbol	Voltage	Application
VC	+5V	LSI(IC1)

4) Relay Circuit
To drive the magnetron, fan motor, turntable motor and light the oven lamp.

5) Buzzer Circuit
The buzzer is responsive to signals from the LSI to emit audible sounds (key touch sound and completion sound).

6) Synchronizing Signal Circuit
The power source synchronizing signal is available in order to compose a basic standard time in the clock circuit. It accompanies a very small error because it works on commercial frequency.

7) Door Sensing Switch
A switch to "tell" the LSI if the door is open or closed.

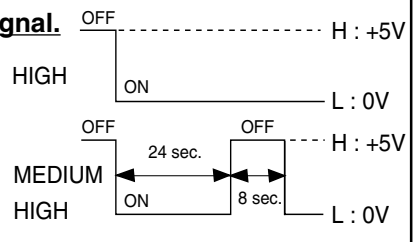
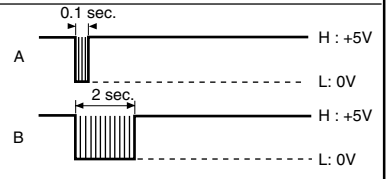
8) Encoder
The encoder converts the signal generated by LSI into the pulse signal, and the pulse signal is returned to the LSI.

9) Back Light Circuit
A circuit to drive the back light (Light emitting diodes LED1-LED3)

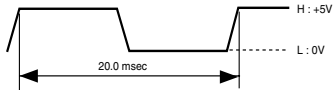
DESCRIPTION OF LSI

LSI(IZA919DR)

The I/O signal of the LSI(IZA919DR) are detailed in the following table.

Pin No.	Signal	I/O	Description
1-12	SEG0 - SEG11	OUT	**Segment data signal.** Connected to LCD. The relation between signals are as follows: LSI signal (Pin No.) LCD (Pin No.) LSI signal (Pin No.) LCD (Pin No.) SEG 0 (1) ..... S12(4) SEG 6 (7) S6(10) SEG 1 (2) ..... S11(5) SEG 7 (8) S5(11) SEG 2 (3) ..... S10(6) SEG 8 (9) S4(12) SEG 3 (4) ..... S9(7) SEG 9 (10) S3(13) SEG 4 (5) ..... S8(8) SEG 10 (11) S2(14) SEG 5 (6) ..... S7(9) SEG 11 (12) S1(15)
13	R60	OUT	**Tact switch strobe signal.** Signal applied to tact switch section. A pulse signal is input to R81 terminal while the tact switch SW4 or the tact switch SW5 is touched.
14	R61	OUT	**Tact switch strobe signal.** Signal applied to tact switch section. A pulse signal is input to R81 terminal while the tact switch SW3 or the tact switch SW7 is touched.
15	R62	OUT	**Tact switch strobe signal.** Signal applied to tact switch section. A pulse signal is input to R81 terminal while the tact switch SW2 or the tact switch SW6 is touched.
16	R63	OUT	**Tact switch strobe signal.** Signal applied to tact switch section. A pulse signal is input to R81 terminal while the tact switch SW1 is touched.
17	AIN0	IN	**To input signal which communicates the door open/close information to LSI.** Door close "L" level signal (0V). Door open "H" level (+5V)
18-20	AIN1-AIN3	IN	**Terminal to change functions according to the Model.** By using the A/D converter contained in the LSI, DC voltage in accordance with the Model in operation is applied to set up its function.
21	VSS	IN	**Power source voltage: 0V.** VSS voltage of power source circuit input.
22	R70	OUT	**Magnetron high-voltage circuit driving signal.** To turn on and off the cook relay (RY2). The signals holds "L" level during microwave cooking and "H" level while not cooking. In other cooking modes (variable cooking) the signal turns to "H" level and "L" level in repetition according to the power level. 
23	R71	OUT	**Signal to sound buzzer (2.0 kHz).** A: key touch sound. B: Completion sound. 

DESCRIPTION OF LSI

Pin No.	Signal	I/O	Description
24	R72	OUT	**Oven lamp, fan motor and turntable motor driving signal.** To turn on and off shut off relay (RY1). The square waveform voltage is delivered to the RY1 driving circuit. 
25	R73	IN	**Signal coming from tact switch.** When either of tact switches SW5-SW7 is touched, a corresponding signal out of R60,R61 and R62 will be input into R73. When no key is touched, the signal is held at "H" level
26	INT2	IN	**Signal synchronized with commercial power source frequency.** This is the basic timing for time processing of LSI.
27	R81	IN	**Signal coming from tact switch.** When either of tact switches SW1-SW4 is touched, a corresponding signal out of R60, R61, R62 and R63 will be input into R81. When no key is touched, the signal is held at "H" level.
28	$\overline{\text{INT1}}$	OUT	Terminal not used.
29	R83	OUT	Terminal not used.
30-32	R90-R92	OUT	Terminal not used.
33	XIN	IN	**Internal clock oscillation frequency setting input.** The internal clock frequency is set by inserting the capacitor and resistor circuit with respect to XOUT terminal.
34	XOUT	OUT	**Internal clock oscillation frequency control output.** Output to control oscillation input of XIN.
35	$\overline{\text{RESET}}$	IN	**Auto clear terminal.** Signal is input to reset the LSI to the initial state when power is supplied. Temporarily set "L" level the moment power is supplied, at this time the LSI is reset. Thereafter set at "H" level.
36	HOLD	IN/OUT	Connected to VDD.
37	VLC	IN	**Signal synchronized with commercial power source frequency**. Signal similar to VSS.
38	COM1	OUT	**Common data signal: COM1.** Connected to LCD (Pin No. 1)
39	COM2	OUT	**Common data signal: COM2.** Connected to LCD (Pin No. 2)
40	COM3	OUT	**Common data signal: COM1.** Connected to LCD (Pin No. 3)
41	COM4	OUT	Terminal not used.
42	VDD	IN	**Power source voltage input terminal.** Connected to VC.

TOUCH CONTROL PANEL ASSEMBLY

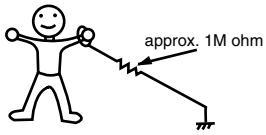
SERVICING

1. Precautions for Handling Electronic Components

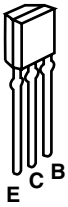
This unit uses CMOS LSI in the integral part of the circuits. When handling these parts, the following precautions should be strictly followed. CMOS LSI have extremely high impedance at its input and output terminals. For this reason, it is easily influenced by the surrounding high voltage power source, static electricity charge in clothes, etc., and sometimes it is not fully protected by the built-in protection circuit.

In order to protect CMOS LSI.

1) When storing and transporting, thoroughly wrap them in aluminium foil. Also wrap PW boards containing them in aluminium foil.
2) When soldering, ground the technician as shown in the figure and use grounded soldering iron and work table.



2. Shapes of Electronic Components



Transistor
2SA1267Y
KRA101M
KRC101M
KRC105M

3. Servicing of Touch Control Panel

We describe the procedures to permit servicing of the touch control panel of the microwave oven and the precautions you must take when doing so.

To perform the servicing, power to the touch control panel is available either from the power line of the oven itself or from an external power source.

(1) Servicing the touch control panel with power supply of the oven :

CAUTION:
THE HIGH VOLTAGE TRANSFORMER OF THE MICROWAVE OVEN IS STILL LIVE DURING SERVICING AND PRESENTS A HAZARD .

Therefore, when checking the performance of the touch control panel, put the outer cabinet on the oven to avoid touching the high voltage transformer, or unplug the primary terminal (connector) of the high voltage transformer to turn it off; the end of such connector must be insulated with an insulating tape. After servicing, be sure to replace the leads to their original locations.

A. On some models, the power supply cord between the touch control panel and the oven itself is so short that the two can't be separated.

For those models, check and repair all the controls (sensor-related ones included) of the touch control panel while keeping it connected to the oven.

B. On some models, the power supply cord between the touch control panel and the oven proper is so long enough that they may be separated from each other. For those models, therefore, it is possible to check and repair the controls of the touch control panel while keeping it apart from the oven proper; in this case you must short both ends of the door sensing switch (on PWB) of the touch control panel with a jumper, which brings about an operational state that is equivalent to the oven door being closed. As for the sensor-related controls of the touch control panel, checking them is possible if the dummy resistor(s) with resistance equal to that of the controls are used.

(2) Servicing the touch control panel with power supply from an external power source:

Disconnect the touch control panel completely from the oven proper, and short both ends of the door sensing switch (on PWB) of the touch control panel, which brings about an operational state that is equivalent to the oven door being closed. Connect an external power source to the power input terminal of the touch control panel, then it is possible to check and repair the controls of the touch control panel; it is also possible to check the sensor-related controls of the touch control panel by using the dummy resistor(s).

4. Servicing Tools

Tools required to service the touch control panel assembly.

1) Soldering iron: 30W
   (It is recommended to use a soldering iron with a grounding terminal.)
2) Oscilloscope: Single beam, frequency range: DC - 10MHz type or more advanced model.
3) Others: Hand tools

5. Other Precautions

1) Before turning on the power source of the control unit, remove the aluminium foil applied for preventing static electricity.
2) Connect the connector of the key unit to the control unit being sure that the lead wires are not twisted.
3) After aluminium foil is removed, be careful that abnormal voltage due to static electricity etc. is not applied to the input or output terminals.
4) Attach connectors, electrolytic capacitors, etc. to PWB, making sure that all connections are tight.
5) Be sure to use specified components where high precision is required.

COMPONENT REPLACEMENT AND ADJUSTMENT

WARNING: Avoid possible exposure to microwave energy. Please follow the instructions below before operating the oven.

1. CARRY OUT 3D CHECKS.
2. Make sure that a definite "click" can be heard when the microwave oven door is unlatched. (Hold the door in a closed position with one hand, then push the door open button with the other, this causes the latch heads to rise, it is then possible to hear a "click" as the door switches operate.)
3. Visually check the door and cavity face plate for damage (dents, cracks, signs of arcing etc.).

Carry out any remedial work that is necessary before operating the oven.
Do not operate the oven if any of the following conditions exist;

1. Door does not close firmly.
2. Door hinge, support or latch hook is damaged.
3. The door gasket or seal is damaged.
4. The door is bent or warped.
5. There are defective parts in the door interlock system.
6. There are defective parts in the microwave generating and transmission assembly.
7. There is visible damage to the oven.

Do not operate the oven:

1. Without the RF gasket (Magnetron).
2. If the wave guide or oven cavity are not intact.
3. If the door is not closed.
4. If the outer case (cabinet) is not fitted.

Please refer to 'OVEN PARTS, CABINET PARTS, DOOR PARTS', when carrying out any of the following removal procedures:

MONITORED LATCH SWITCH, MONITORED SWITCH AND STOP SWITCH REMOVAL

1. CARRY OUT 3D CHECKS.
2. Remove the control panel assembly referring to "CONTROL PANEL ASSEMBLY REMOVAL".
3. Disconnect the all leads from the switches.
4. Remove the two (2) screws holding the latch hook to the oven cavity.
5. Remove the latch hook.
6. Push the retaining tab slightly and remove the switch.

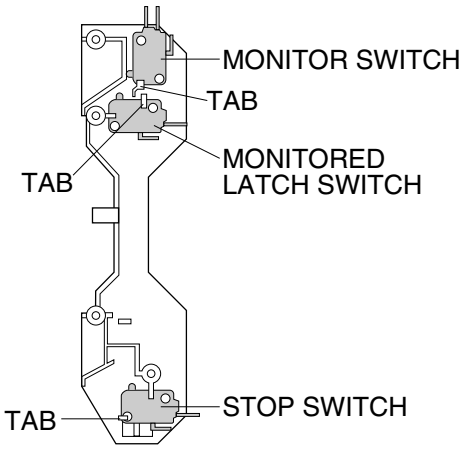


Figure C-3. Switches

DOOR REPLACEMENT

REMOVAL

1. CARRY OUT 3D CHECKS.
2. Push the open button and open the door slightly.
3. Insert a putty knife (thickness of about 0.5mm) into the gap between the choke cover and door frame as shown in Figure C-5 to free engaging parts.
4. Release choke cover from door panel.
5. Now choke cover is free.

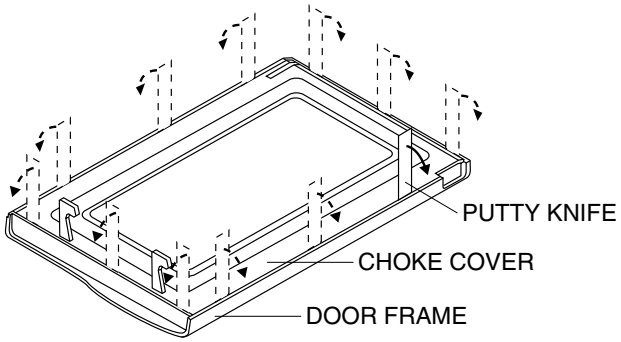


Figure C-5. Door Disassembly

6. Release two (2) pins of door panel from two (2) holes of upper and lower oven hinges by lifting up.
7. Now, door sub assembly is free from oven cavity.
8. Remove the four (4) screws holding the door panel to the door frame.
9. Release door panel from eight (8) tabs of door frame by sliding door panel downward.
10. Now, door panel is free.
11. Slide latch head upward and remove it from door frame by releasing latch spring from door frame and latch head.
12. Now, latch head and latch spring are free.
13. Remove the two (2) screws holding the glass stopper to the door frame.
14. Remove the glass stopper from the door frame.
15. Slide the front door glass leftwards and then slide upwards to release the tabs holding it.
16. Now, the front door glass is free

COMPONENT REPLACEMENT AND ADJUSTMENT

RE-INSTALL

1. Re-install the front door glass to the door frame as follows.

1) Insert the upper edge of the front door glass into the six (6) tabs of the door frame.
2) Slide the front door glass downwards and insert the lower edge of the front door glass into the six (6) tabs of the door frame.
3) Slide the front door glass rightwards and insert the right edge of the front door glass into the one (1) tab of the door frame.

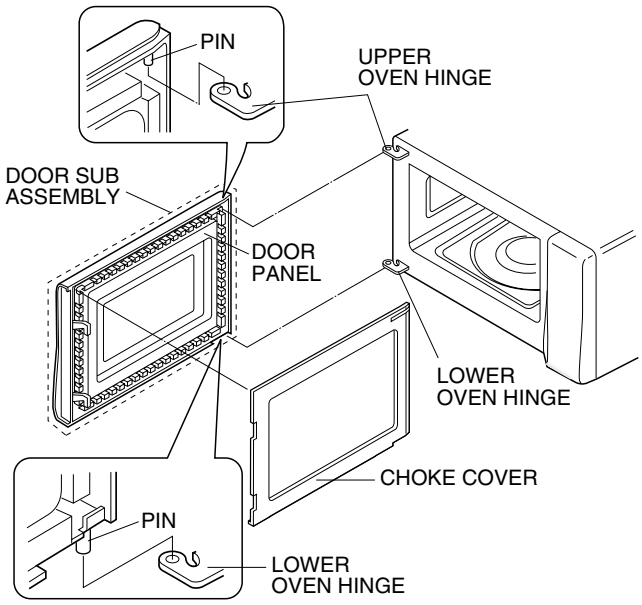
2. Re-install the glass stopper to the door frame as follows.

1) Re-install the glass stopper to the door frame so that the two (2) holes of the glass stopper meet the two (2) pins of the door frame.
2) Hold the glass stopper to the door frame with the two (2) screws.

3. Re-install the latch spring to the latch head. Re-install the latch spring to the door frame. Re-install latch head to door frame.
4. Re-install door panel to door frame by fitting eight (8) tabs of door frame to eight (8) holes of door panel.
5. Fit the door panel to the door frame with four (4) screws.
6. Insert two (2) pins of door panel on two (2) hole of upper and lower oven hinges.
7. Re-install choke cover to door panel .

Note: After any service to the door;

Make sure that door sensing switch and primary latch switch are operating properly.



WIRING/ RE-WIRING

WARNING: WIRING/RE-WIRING

Before carrying out any work; carry out 3D checks.

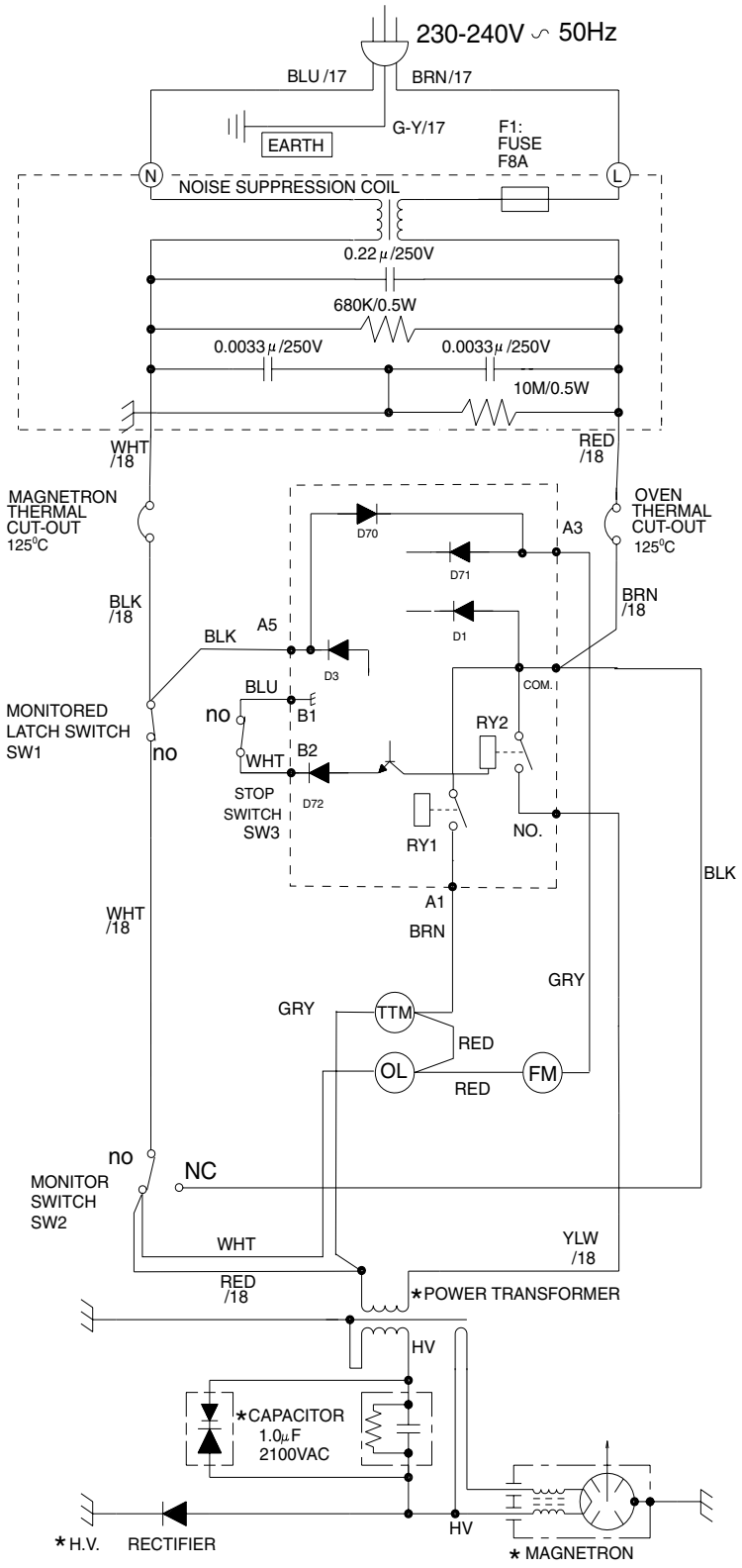
1. Disconnect the supply.
2. Open the door and wedge open.
3. Discharge the high voltage capacitor.

RE-WIRING

Ensure the following:

1. Wires must not touch:
   a) High voltage parts.
   b) Parts that become hot.
   c) Sharp edges.
   d) Movable parts.
2. Positive lock connectors are fitted correctly.
3. Wires are connected correctly as per pictoral diagram.
4. No wire leads are trapped by the outer wrap.

SCHEMATIC DIAGRAM



*INDICATES PARTS WITH POTENTIALS OVER 240V

Figure 0-1 Oven Schematic

CONTROL PANEL CIRCUIT DIAGRAM

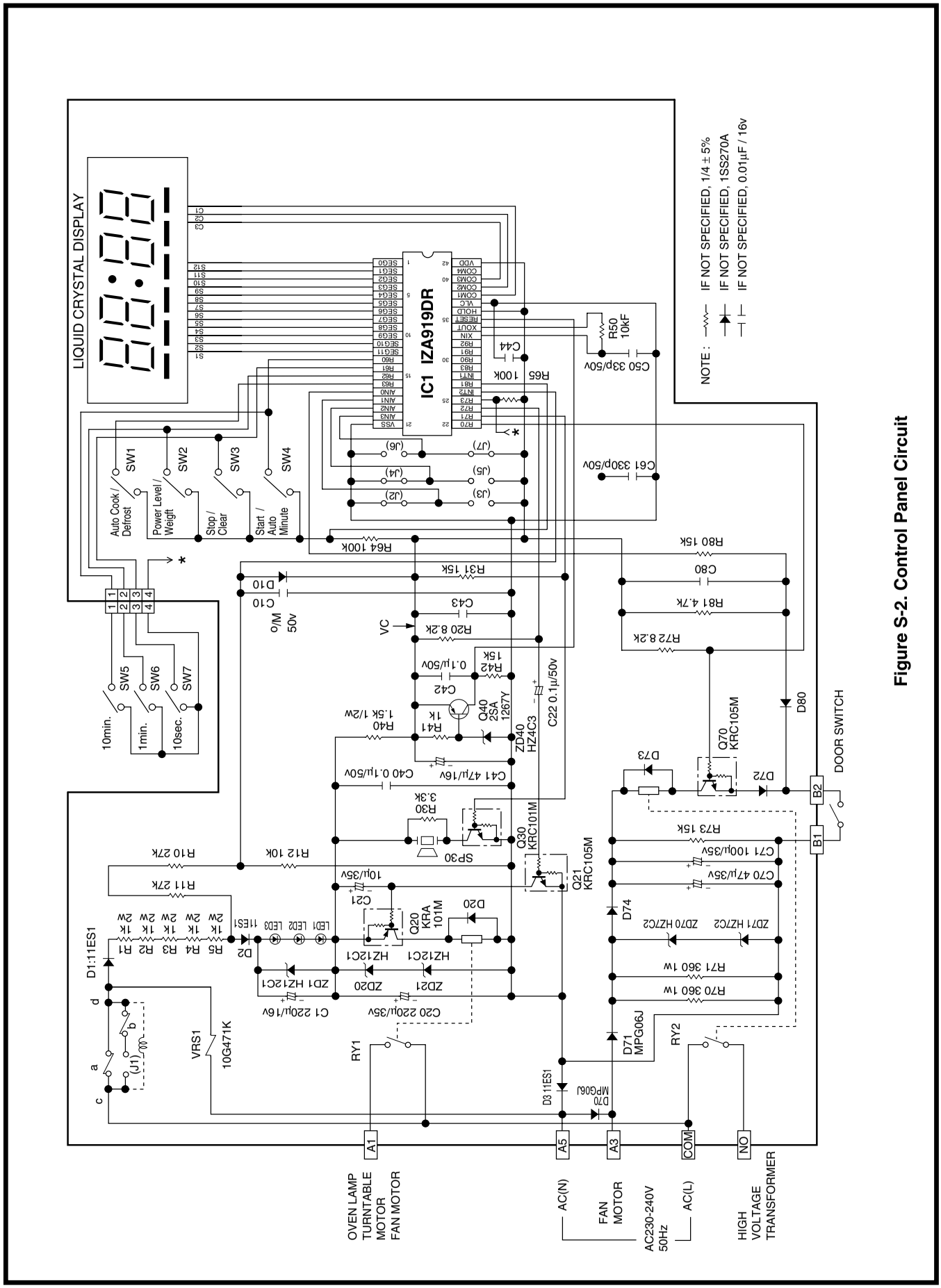


Figure S-2. Control Panel Circuit

PRINTED WIRING BOARD DIAGRAM

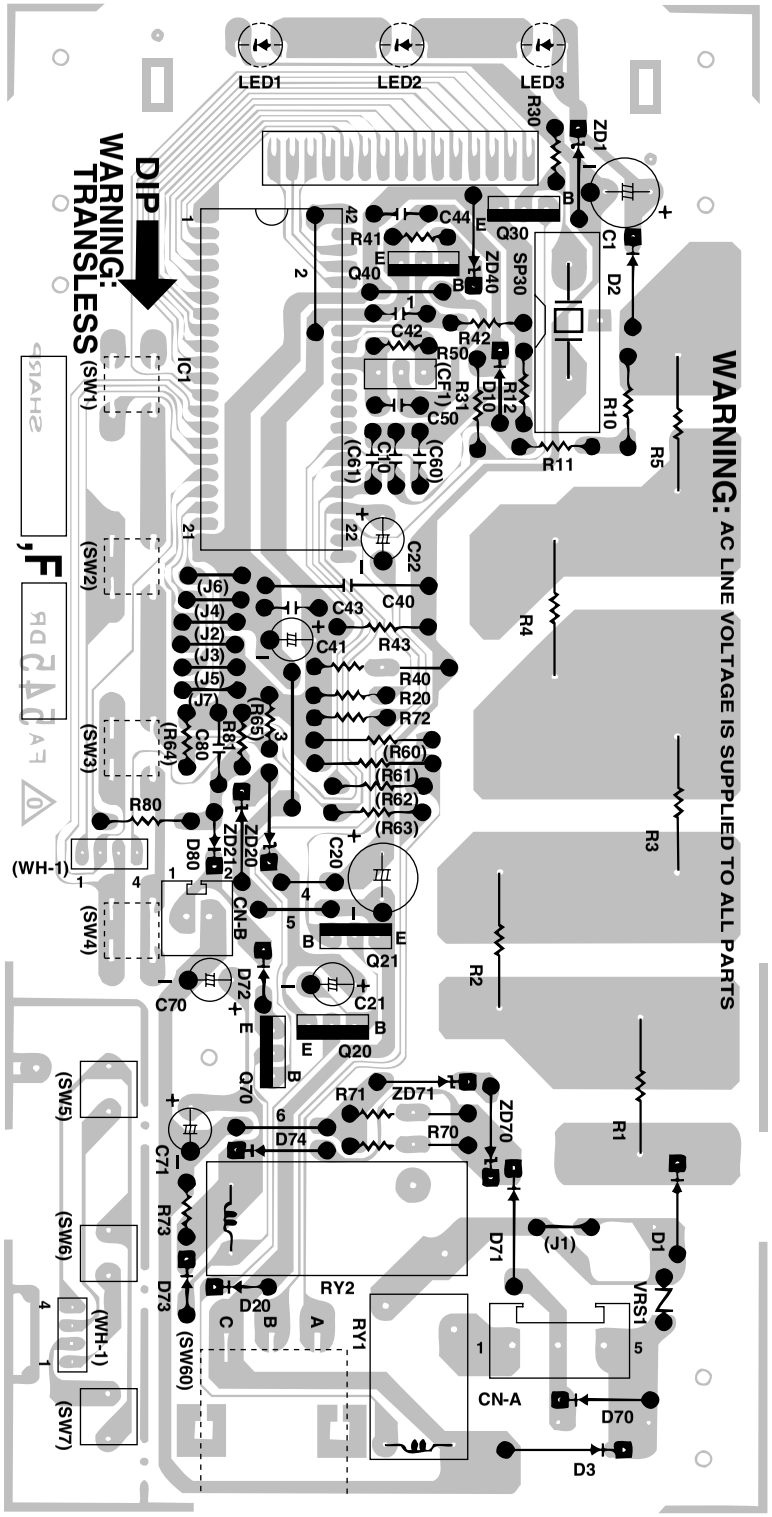


Figure S-3. Printed Wiring Board

PART LIST

Note: The parts marked ' ★ ' have voltages in excess of 250V.
The parts marked ' Δ ' may cause undue microwave exposure when damaged, loosened or removed.
' §' 'mark : Spare part delivery section.

ELECTRIC PARTS

	REF NO	PART NO	§	DESCRIPTION	Q'TY	CODE	
*	1-1	FH-DZA035WRE0	U	H.V. rectifier assembly	1	AP	*
	1-2	FPWBFA308WRE2	U	Noise filter	1	AQ	
	1-3	QACCBA032WRE3	U	Power supply cord	1	AR	
	SW3	QSW-MA131WRE0	U	Stop switch	1	AK	
Δ*	MG	RV-MZA264WRE0	U	Magnetron	1	BK	*Δ
*	C	RC-QZA238WRE0	U	High voltage capacitor	1	AR	*
	SW1	QSW-MA131WRE0	U	Monitored latch switch	1	AK	
	SW2	QSW-MA133WRE0	U	Monitor switch	1	AN	
	FM	RMOTEA361WRE0	U	Fan motor	1	AT	
	F2	QFS-CA025WRE0	U	Fuse F8A	1	AC	
	OL	RLMPTA066WRE0	U	Oven lamp	1	AK	
	TTM	RMOTDA227WRE0	U	Turntable motor	1	AU	
	TC1	RTHM-A098WRE0	U	Thermal cut-out 125°C (Magnetron)	1	AH	
	TC2	RTHM-A098WRE0	U	Thermal cut-out 125°C (Oven)	1	AH	
*	T	RTRN-A016URE1	U	Power transformer	1	BE	*

CABINET PARTS

	REF NO	PART NO	§	DESCRIPTION	Q'TY	CODE	
Δ	2-1	GCABUA024URP0	U	Outcase cabinet (SL)	1	AX	Δ
Δ	2-1	GCABUA469WRT0	U	Outer case cabinet (W)	1	AX	Δ
Δ	2-1	GCABUA005URP0	U	Outercase cabinet (G)	1	AX	Δ
	2-2	GDAI-A219WRP5	U	Base plate assembly	1	AS	
	2-3	GLEGPA028WRE0	U	Foot	4	AA	

CONTROL PANEL PARTS

REF NO	PART NO	§	DESCRIPTION	Q'TY	CODE
3- 1	DPWBFB852WRK0	U	Control unit	1	BL
3- 1A	QCNCMA430DRE0	U	3-pin connector (CN-A)	1	AC
3- 1B	QCNCMA414DRE0	U	2-pin connector (CN-B)	1	AB
3- 1C	FW-VZA218DRE0	U	4P harness (WH-1)	1	AE
3- 1D	RLCDSA036DRE0	U	Liquid crystal display	1	AP
3- 1E	LHLD-A179WRF0	U	LED holder	1	AE
3- 1F	PSHEPA601WRE0	U	LED sheet	1	AD
C1	VCEAB31VW227M	U	Capacitor 220 uF 16V	1	AB
C10	RC-KZA087DRE0	U	Capacitor 0.01 uF 16V	1	AB
C20	VCEAB31VW227M	U	Capacitor 220 uF 35V	1	AB
C21	VCEAB31VW106M	U	Capacitor 10 uF 35V	1	AB
C22	VCEAB31HW104M	U	Capacitor 0.1 uF 50V	1	AM
C40	RC-KZA087DRE0	U	Capacitor 0.1 uF 50V	1	AB
C41	VCEAB31CW476M	U	Capacitor 47 uF 16V	1	AA
C42	RC-KZA087DRE0	U	Capacitor 0.1 uF 50V	1	AB
C43-44	VCKYD11CY103N	U	Capacitor 0.01 uF 16V	2	AB
C50	VCCCF61HH330J	U	Capacitor 33 pF 50V	1	AB
C70	VCEAB31VW476M	U	Capacitor 47 uF 35V	1	AB
C71	VCEAB31VW107M	U	Capacitor 100 uF 35V	1	AB
C80	VCKYD11CY103N	U	Capacitor 0.01 uF 16V	1	AA
	VCKYF31HF331N	U	Capacitor 330 uF 50V	1	AA
D1-3	VHD1N4005E61B	U	Diode (11ES1)	3	AE
D10	VHD1SS270A/-1	U	Diode (1SS270ATA)	1	AA
D20	VHD1SS270A/-1	U	Diode (1SS270ATA)	1	AA
D70-71	VHD1N4005E61B	U	Diode (1N4005E)	2	AE
D72-74	VHD1SS270A/-1	U	Diode (1SS270ATA)	3	AA
D80	VHD1SS270A/-1	U	Diode (1SS270ATA)	1	AA
IC1	RH-IZA919DRE0	U	LSI	1	AS
LED1-3	VHPSLP7117E-3	U	Light emitting diode	3	AC
Q20	VSKRA101M//-3	U	Transistor (KRA101M)	1	AA
Q21	VSKRC105M//-3	U	Transistor (KRC105M)	1	AB
Q30	VSKRC101M//-3	U	Transistor (KRC101M)	1	AA
Q40	VS2SA1267Y/-3	U	Transistor (2SA1267Y)	1	AC
Q70	VSKRC105M//-3	U	Transistor (KRC105M)	1	AB

PART LIST

Note: The parts marked ' ★ ' have voltages in excess of 250V.
The parts marked ' Δ ' may cause undue microwave exposure when damaged, loosened or removed.
' §' mark : Spare part delivery section.

CONTROL PANEL PARTS CONTINUED

REF NO	PART NO	§	DESCRIPTION	Q'TY	CODE
R1-5	VRS-L63DA102J	U	Resistor 1.0k ohm 2W	5	AB
R10-11	VRD-B12EF273J	U	Resistor 27k ohm 1/4W	2	AA
R12	VRD-B12EF103J	U	Resistor 10k ohm 1/4W	1	AA
R20	VRD-B12EF822J	U	Resistor 8.2k ohm 1/4W	1	AB
R30	VRD-B12EF332J	U	Resistor 3.3k ohm 1/4W	1	AA
R31	VRD-B12EF153J	U	Resistor 15k ohm 1/4W	1	AA
R40	VRD-B12HF152J	U	Resistor 1.5k ohm 1/2W	1	AA
R41	VRD-B12EF102J	U	Resistor 1.0k ohm 1/4W	1	AA
R42	VRD-B12EF153J	U	Resistor 15k ohm 1/4W	1	AA
R50	VRN-B12EK103F	U	Resistor 10k ohm 1/4W	1	AA
R64-65	VRD-B12EF104J	U	Resistor 100k ohm 1/4W	2	AA
R70-71	VRS-B13AA361J	U	Resistor 360 ohm 1W	2	AA
R72	VRD-B12EF822J	U	Resistor 8.2k ohm 1/4W	1	AB
R73	VRD-B12EF153J	U	Resistor 15k ohm 1/4W	1	AA
R80	VRD-B12EF153J	U	Resistor 15k ohm 1/4W	1	AA
R81	VRD-B12EF472J	U	Resistor 4.7k ohm 1/4W	1	AA
RY1	RRLY-A080DRE0	U	Relay (OJ-SH-124LM)	1	AG
RY2	RRLY-A094DRE0	U	Relay (OMIF-S-112LM)	1	AL
SP30	RALM-A014DRE0	U	Buzzer (PKM22EPT-THAI)	1	AG
SW1-4	QSW-PA004DRE0	U	Tact switch	4	AB
SW5-7	QSW-PA016DRE0	U	Tact switch	3	AB
VRS1	RH-VZA032DRE0	U	Varistor (10G471K)	1	AC
ZD1	VHEHZ12C1//-1	U	Zener diode (HZ12C1)	1	AA
ZD20-21	VHEHZ12C1//-1	U	Zener diode (HZ12C1)	2	AA
ZD40	VHEHZ4C3///-1	U	Zener diode (HZ4C-3)	1	AA
ZD70-71	VHEHZ7C2///-1	U	Zener diode (HZ7C2)	2	AA
3- 2-1	PSHEPA041URE0	U	Key sheet[R-343(W)M]	1	AL
3- 2-1	PSHEPA042URE0	U	Key sheet [R-343(G)M]	1	AM
3- 2-1	PSHEPA044URE0	U	Key sheet [R-343(SL)M]	1	AM
3- 2-2	GMADIA006URF0	U	Display window	1	AF
3- 2-3	GCOVHA014URF0	U	Key fixing frame	1	AL
3- 3	HPNLCA028URF0	U	Control panel frame [R-343(W)M]	1	AN
3- 3	HPNLCA030URF0	U	Control panel frame [R-343(G)M]	1	AN
3- 3	HPNLCS004URR0	U	Control panel frame [R-343(SL)M]	1	AN
3- 4	JBTN-A017URF0	U	Open button [R-343(W)M]	1	AE
3- 4	JBTN-A061URF0	U	Open button [R-343(G)M]	1	AE
3- 4	JBTN-R005URF0	U	Open button [R-343(SL)M]	1	AE
3- 5	MSPRCA045WRE0	U	Open spring	1	AA

OVEN PA\RTS

REF NO	PART NO	§	DESCRIPTION	Q'TY	CODE
4-2	LBNDKA107WRP1	U	Capacitor holder	1	AD
4-3	PHOK-A078WRF5	U	Latch hook	1	AH
4-4	NFANJA001URE0	U	Fan blade	1	AF
4-5	PDUC-A637WRF2	U	Fan duct	1	AL
4-6	LANGFA155WRP7	U	Chassis support	1	AF
4-7	PPACGA108WRE0	U	Packing	1	AC
4-9	MLEVPA001URF3	U	Open lever	1	AE
4-10	NCPL-A042WRF1	U	Coupling	1	AD
4-11	PCOVPA308WRE1	U	Waveguide cover	1	AE
4-12	PFILWA042WRP0	U	Lamp filter	1	AB
4-14	PDUC-A606WRF1	U	Air intake duct	1	AK
4-15	PCUSGA317WRP0	U	Absorb cushion	2	AA
4-16	PCUSUA340WRP2	U	Air deflector	1	AA
4-20	PCUSGA273WRP0	U	Cushion	1	AC
4-23	PSPAGA001WRE0	U	Vib proof cushion	1	AA

PART LIST

Note: The parts marked ' ★ ' have voltages in excess of 250V.
The parts marked ' Δ ' may cause undue microwave exposure when damaged, loosened or removed.
' § 'mark : Spare part delivery section.

DOOR PARTS

REF NO	PART NO	§	DESCRIPTION	Q'TY	CODE
5-1	DDORFA749WRK0	U	Door panel assembly	1	AY
5-2	GCOVHA352WRF2	U	Choke cover	1	AH
5-3	GWAKPW012URR0	U	Door frame (W)	1	AP
5-3	GWAKPA003URR0	U	Door frame (G)	1	AP
5-3	GWAKPS002URR0	U	Door frame (SL)	1	AP
5-4	PGLSPA020URR0	U	Door screen	1	AX
5-5	LSTPPA147WRF1	U	Latch head	1	AE
5-6	MSPRTA141WRE0	U	Latch spring	1	AA
5-7	PSHEPA457WRE0	U	Door film	1	AF
5-8	FDORFA287WRT0	U	Door panel sub assembly	1	AW
5-9	XEBSD30P06000	U	Screw 3mm x 6mm	6	AA
5-10	LSTPPA003URF0	U	Glass stopper	1	AB

MISCELLANEOUS

REF NO	PART NO	§	DESCRIPTION	Q'TY	CODE
6-1	FROLPA002URK0	U	Roller stay	1	AM
6-2	NTNT-A051WRE0	U	Turntable tray	1	AN
6-3	TINS-A191URR0	U	Instruction book	1	AS
6-5	QW-QZA210WRE1	U	H.V. wire B	1	AD
* 6-6	FW-VZA020URE1	U	Main wire harness	1	AU *
* 6-7	TCAUHA001WRR1	U	Caution label	1	AC *

SCREWS, NUTS AND WASHERS

REF NO	PART NO	§	DESCRIPTION	Q'TY	CODE
7-1	XWWSD50-06000	J	Washer	1	AA
7-2	XHTSD40P08RV0	J	Screw 4mm x 8mm	3	AA
7-3	XEPSD40P25000	J	Screw 4mm x 25mm	2	AA
7-4	LX-LZA011WRE0	U	Rivet	2	AB
7-5	LX-CZA001URE0	U	Self tapping screw	16	AA
7-6	XHPSD40P60000	J	Screw 4mm x 6mm	2	AA
7-7	XEBSD30P06000	J	Screw 3mm x 6mm	1	AA
7-8	XFPSD50P10KS0	J	Screw 4mm x 10mm	2	AB
7-9	XOTSE40P12000	U	Cabinet screw (silver)	4	AA
7-9	XOTSF40P12000	U	Cabinet screw (black)	4	AA
7-10	LX-EZA045WRE0	U	Screw (Not shown on illustration)	1	AA
7-11	XOTSD40P12RV0	J	Self tapping screw	2	AA
7-12	XHPSD40P08K00	U	Screw	1	AA

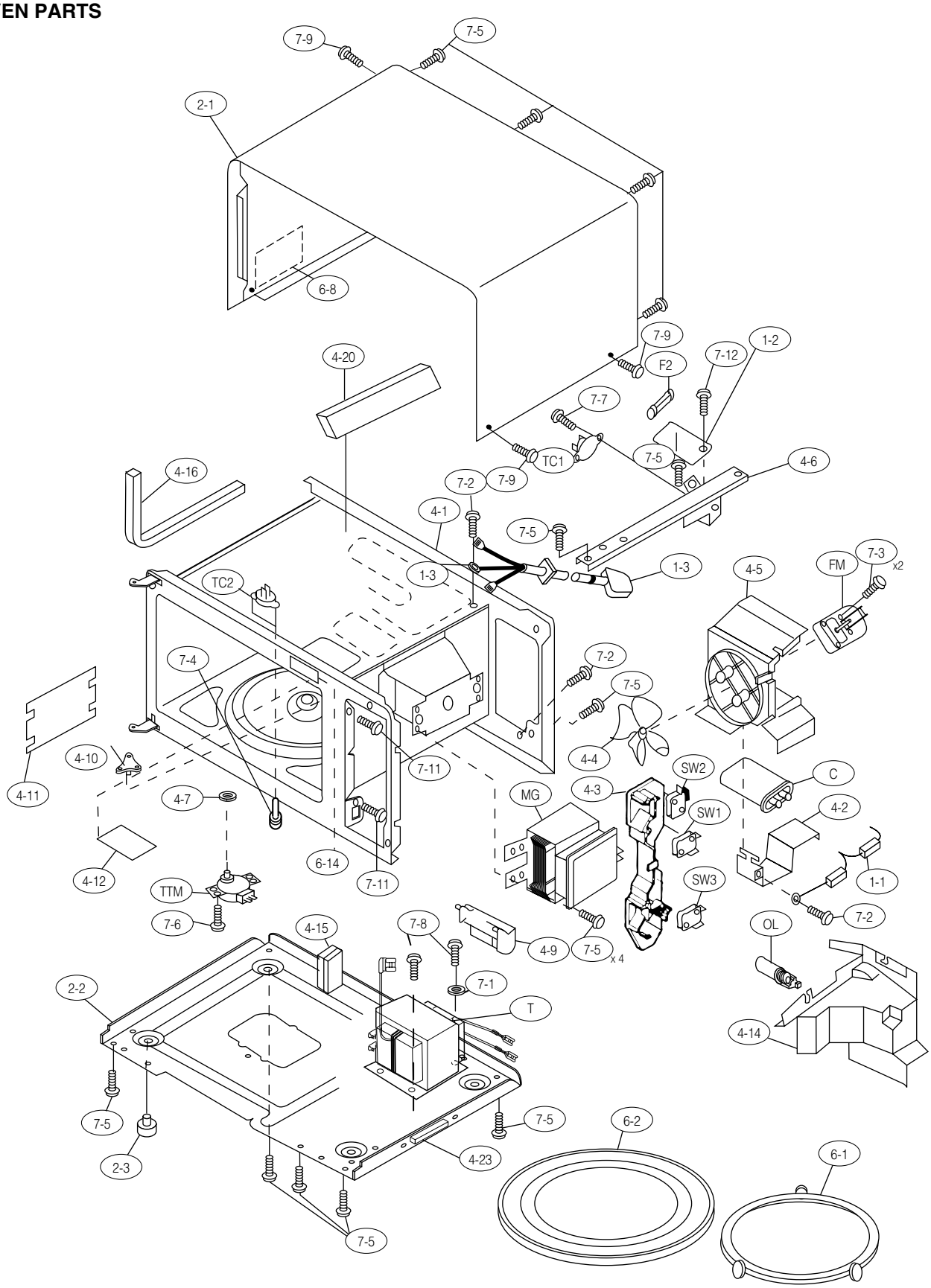
HOW TO ORDER REPLACEMENT PARTS

To have your order filled promptly and correctly, please furnish the following information.

1. MODEL NUMBER 2. REF. NO.
3. PART NO. 4. DESCRIPTION

EXPLODED DIAGRAM OF OVEN PARTS

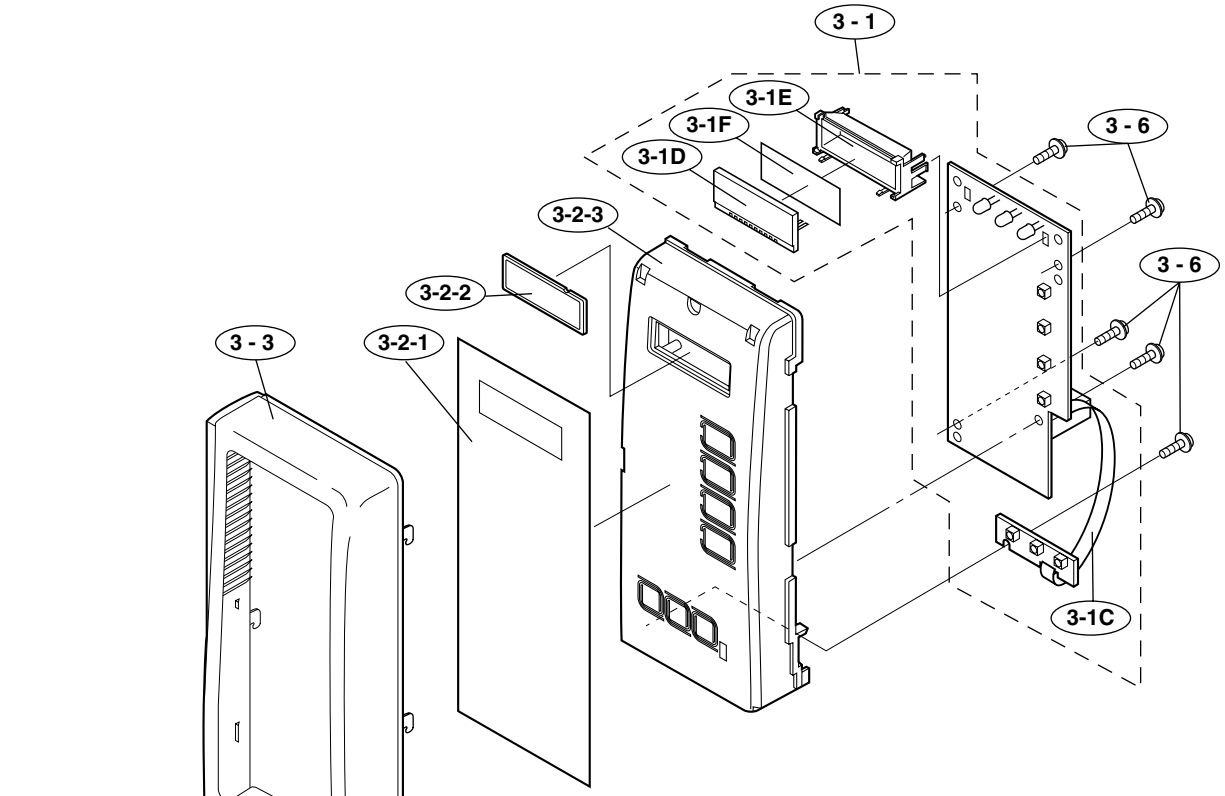
OVEN PARTS



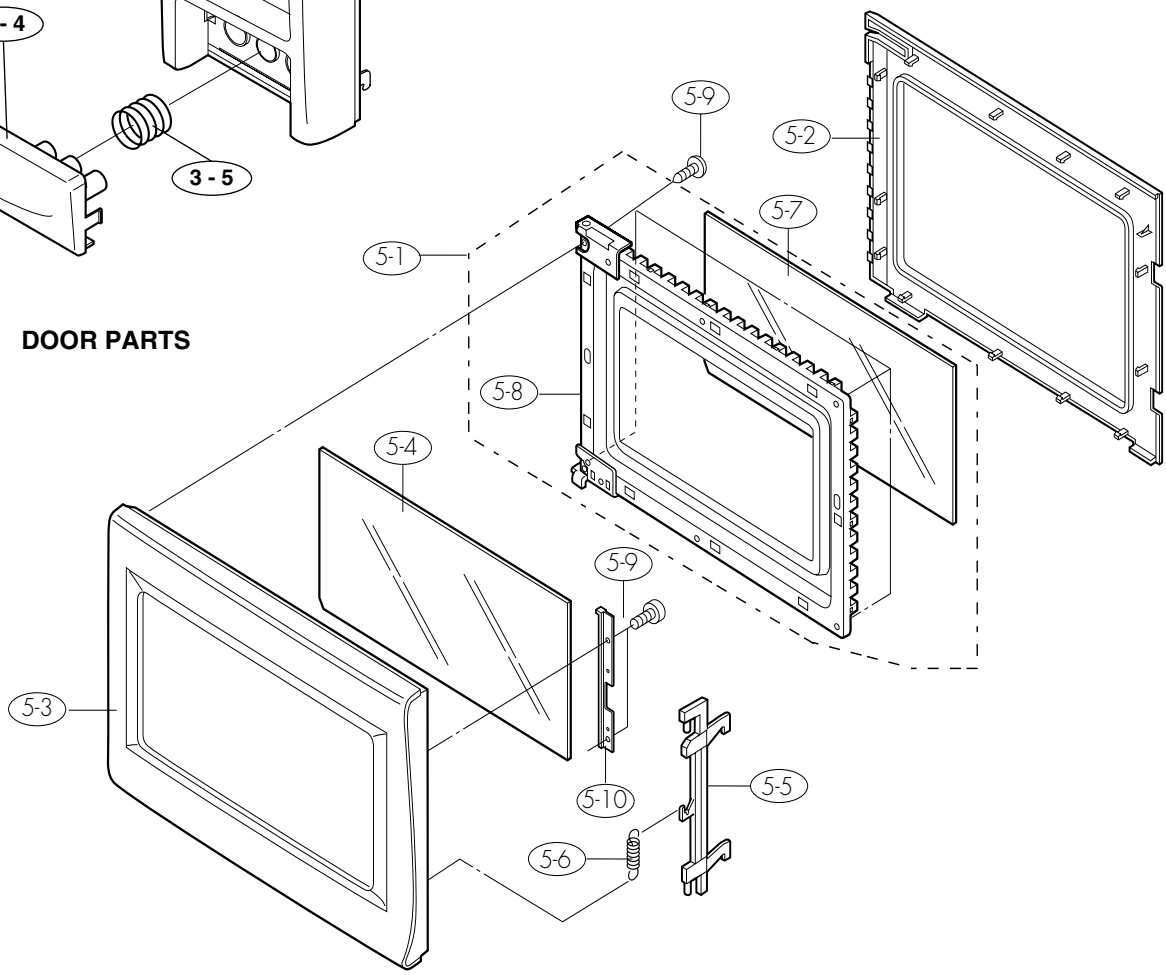
NOTE: In the event of removing the turntable motor cover this part should be refitted using screw connection : LX-EZA045WRE0 (7-10)

CONTROL PANEL/DOOR PARTS

CONTROL PANEL PARTS

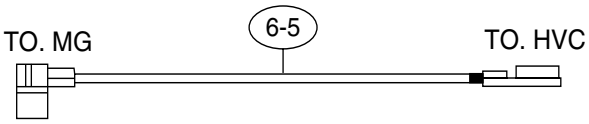


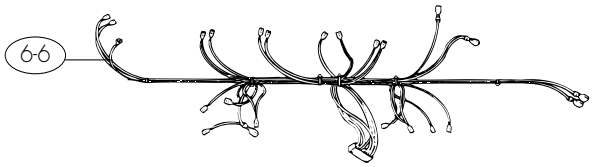
DOOR PARTS



MISCELLANOUS /PACKING & ACCESSORIES

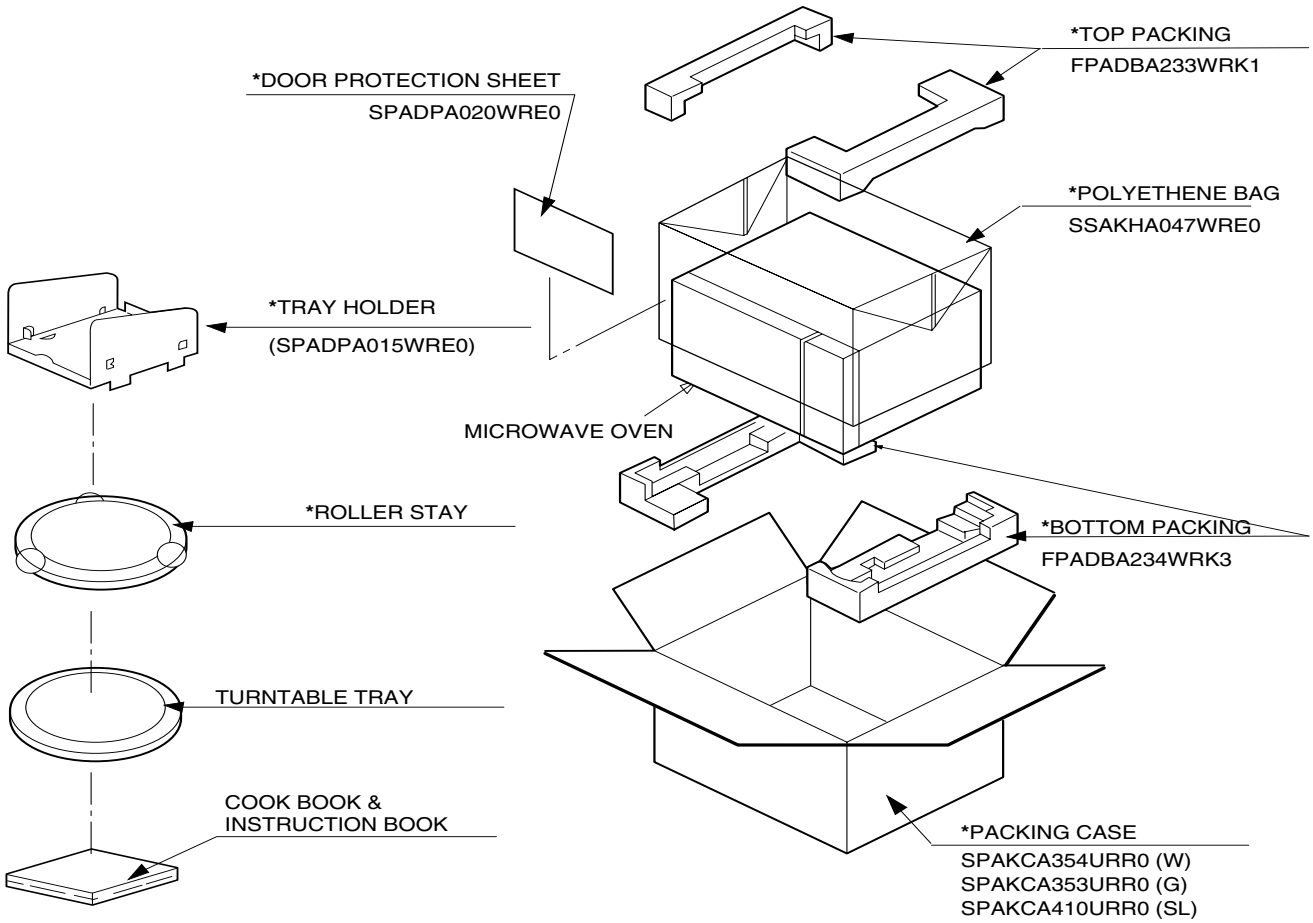
MISCELLANEOUS





Actual wire harness may be different than illustration.

PACKING AND ACCESSORIES



*Not replaceable items.

NOTES

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